

Cunningham Lindsey

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Policyholder: Mr Christopher Stewart-Smith

Subject Property Address:

38 Crediton Hill
London
NW6 1HR

INSURANCE CLAIM

CONCERNING SUSPECTED SUBSIDENCE

SUPPLEMENTARY ENGINEERING APPRAISAL REPORT

This report is prepared on behalf of Zurich Personal Lines for the purpose of investigating a claim for subsidence. It is not intended to cover any other aspect of structural inadequacy or building defect that may otherwise have been in existence at the time of inspection.

Date: 24/03/2017

Cunningham Lindsey Ref: 6409065

INTRODUCTION

The technical aspects of this claim are being overseen by a Senior Building Consultant David Billington MCIQB FCILA ACII, in accordance with our Project Managed Service.

DESCRIPTION OF BUILDING

The subject property is located in a residential suburb of similar dwellings and comprises a three storey building with loft conversion sub-divided into three flats. The site slopes gently from the left to the right. Construction dates from the early 1900's and is of conventional masonry walls and a principle pitched roof covering of tiles.

Local Authority records show that permission was granted in 1976 for the existing flat roof single storey section at the rear to be added to by a further single storey extension, so as to provide a dressing room and an additional bedroom to the garden flat. It is this later addition that now forms the subject of the subsidence damage claim.

There are rainwater downpipes at the front left junction of the single storey sections, these running alongside the left hand side wall towards the front of the building, but no other nearby drainage outfalls.

There is vegetation within potential influencing distance of the affected section comprising small trees located both in the garden of the risk address to the rear right corner and also just over the left hand side boundary in the privately owned garden of number 40 Crediton Hill, London.

To the left there are three or four small trees approaching 7m in height and just 1.5m away from the damaged section of the building, whilst to the right the nearest tree is about 9m away and also 7m high.

DISCOVERY OF DAMAGE

The Policyholder inherited the property from his late Brother, Insurers having held cover at the property since 01/01/2000.

The Policyholder attended the property with his Agent and at which time the tenant drew attention to the cracking. The Policyholder alerted Insurers via the interested brokers, this being on or about 13/01/2017.

NATURE AND EXTENT OF DAMAGE

Description and Mechanism

Briefly, at the time of our visit we recorded as follows;

Generally - The building was within reasonable alignment where checked with a spirit level other than to the rear section under review.

Rear section externally - Tapered diagonal cracking hairline to 15 mm in width, running from near to the ground up to the roof level, seen on both left and right elevations at the junction between the single storey sections, on the right hand side also extending below and above the window opening. Some evidence of previous cosmetic pointing but there is no information as to when or by whom this was done.

Rear section internally - Disruption by cracking in the range hairline to 6 mm in width at the junction of the two single storey sections affecting wall and ceiling plasterwork and decorative finishes within the rear bedroom, running below and above the window opening in the dressing room, over the dividing door to the rear bedroom and along the wall/ ceiling junctions.

Front section externally - Lateral vertical separation to 5 mm in width at the junction of the masonry panel, located between the upper and lower bay window openings, and the main house. (No damage internally or externally in the lower storey area at this location.)

Internally – Front first floor bedroom, cracking currently hairline at the junction of the bay window with the main house to one side only, the existing cracking having been cosmetically repaired by the tenant since taking up occupation in September 2016.

Internally - Loft conversion, front bedroom had minor localised ceiling cracking and a single crack to the right hand side wall. There is no other associated damage around this area, crack widths being hairline to 1mm in width only and evidence of loose / hollow sounding wall plaster.

The pattern and the distribution of the cracking indicates rotational foundation subsidence affecting the rear single storey extension and also separate lateral movement at first floor level to the upper section bay window area.

Significance

Rear section

The level of damage is moderate, and is classified as category 3 in accordance with BRE Digest 251 - Assessment of damage in low-rise buildings.

Onset and Progression

Rear section

We consider that the damage has occurred recently. It is likely that movement will be of a cyclical nature with cracks opening in the summer and closing in the winter.

SITE INVESTIGATIONS

Rear section

The site investigation comprised of a single trial hole extended by augered borehole to 3000mm depth located at the rear left corner. This was carried out by CET Limited on 06/03/2017.

The foundation was a conventional 200mm thick concrete footing bearing at 1000mm below ground level into made ground comprising medium compact, mid brown, silty clay with occasional brick fragments and carbon deposits, this material extended to 2600mm depth and from where to the bottom of the borehole the ground was then described as medium compact pungent, moist, stained brown silty sandy clay with occasional brick fragments. The borehole was dry and open on completion.

There were live roots found in the bearing subsoil from foundation underside down to 1800mm depth. These were sent for analysis and identified as the tree species Tilia and which are Limes.

The nearby drainage outfalls were tested and the run from the rainwater gully nearest to the main house contained displaced joints and was leaking, this being consistent with differential ground movement, the inspection chamber was also similarly affected by slight cracking in the channel.

MONITORING

We do not consider that formal monitoring is required. The repairs, once completed, will of themselves enable the situation to be informally monitored for the future.

CAUSE OF DAMAGE

Rear section

The bearing ground is of made up levels, however this is described as medium compact and bearing in mind there has been no damage over the 40 year life of the lightly loaded structure until recently we rule out such things as initial settlement or long term consolidation.

The nearby drains were leaking, however the borehole was described as being dry and open on completion, hence we rule out drain leakage also as the dominant cause, it also to be borne in mind that both sides of the extension are cracked and the general trend of movement is towards the rear rather than the side nearest to the drainage leaks.

The recent onset of damage at the end of the growing season near to trees on Clay subsoil is however typical damage for tree root induced Clay shrinkage. There is a bearing subsoil of Clay confirmed here and there were live roots were present to 1800mm depth and within the bearing zone. Young trees approaching 7m in height grow in the adjoining garden to the left at a distance of just 1500mm. Accordingly we confirm that based on the information detailed above, we are of the opinion that damage here has recently occurred due to clay shrinkage subsidence. This has been caused by variations in the moisture content of the clay subsoil, resulting in volume changes, which in turn have locally affected the foundations.

Front section

This damage around the bay area is quite common in properties of this age and type where the traditional method of construction did not allow for the incorporation of a formal lintel to support the panel in between the windows. In time the upper panel comes to rest on the lower timber window frame and from which it then takes a measure of support. When more flexible lightweight replacement windows are later fitted, often with a slight gap between the top of the frame and the underside of the mid bay panel above, these allow the panel above to deflect slightly which inevitably

results in the type of cracking and slight separation now under review.

Loft conversion area

Commonly internal plaster cracking of this type is caused by nothing more than flexing of the structure brought about by normal movements between dissimilar materials due to thermal / moisture changes in the building, particularly in the presence of central heating. Often this is made worse in older properties as the traditional lime based plasters break down over time and become brittle and de-bonded, or the flexing exploits lines of weakness along old repair lines, which then break down over time. We noted the plaster around the wall crack appeared to have locally bulged and sounded hollow.

RECOMMENDATIONS

Mitigation

Rear section

We consider the damage will not progress if appropriate measures are taken to remove the cause. In this instance it is likely that vegetation for which the policyholder and other private owners are responsible is contributing toward the cause of damage. We will look to remove the offending trees and therefore as a first step we will now ask Oriel Mitigation to obtain an arboricultural report from OCA UK Limited on the effects of the vegetation near to the building, and if necessary they will then contact any neighbouring owners as is required. We will be able to provide further advices to the Policyholder at the same time if vegetation within the garden of the risk address also needs to be dealt with.

Repair

Rear section

We have not yet decided on the final type of repair required, but have produced an outline of the most likely requirements. This involves undertaking superstructure repairs and redecoration. This decision has been taken based on our knowledge and experience of dealing with similar claims.

Front section bay

The usual way to repair this would be to arrange to locally remove a small area of the internal plaster at first floor level. The vertical separation can be stabilised by installing a couple of 1m long horizontal galvanised steel straps internally in the bedroom within the thickness of the plaster to each side of the panel, to span either side of the cracking, so as to connect the panel back to the stable masonry of the main house. These straps should be securely screwed and plugged, using non rusting screws such as brass. Resin can be used to fill the crack line and re-plastering and decoration can then be completed, we suggest galvanised steel mesh (Expanded metal lathing also called EML) is applied to the wall first to provide a key for the plaster over the strap areas and the repaired separation.

Externally the masonry cracking can be cut out and the area resin repaired and repointed. (Cranked Helical bars set in resin may also be of benefit of help here also to secure the external face masonry.) As a temporary measure, as the cracking is relatively small, these cracks can sometimes also simply be made weather tight with clear silicon mastic. The works are of a type that should be

well within the capability of any competent local building contractor.

For Cunningham Lindsey:

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